DOCUMENT RESUME

EF 003 064

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Lighting Systems for Educational Television.
Hub Electric Co., Inc., Chicago, Ill.
Report No-BULL-132
Pub Date Jun 67
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EDRS Price MF-$0.25 HC-$0.75
Descriptors-*Educational Television, Electrical Systems, Electronic Equipment, *Equipment, Lighting, Lights, Specifications, *Studio Floor Plans, *Television Lighting, Television Lights

Contains specifications, typical layouts, and equipment schedules for lighting television studios. A lighting schedule includes information on--(1) back and key lights, (2) fill and base lights, (3) special purpose lights, and (4) hanging devices. Floor plans for different type and size studios are also included. (RH)

ED028622

BULLETIN No. 132
TYPICAL LAYOUTS
AND EQUIPMENT
SCHEDULES

Lighting Systems for Educational Television

EF 003064

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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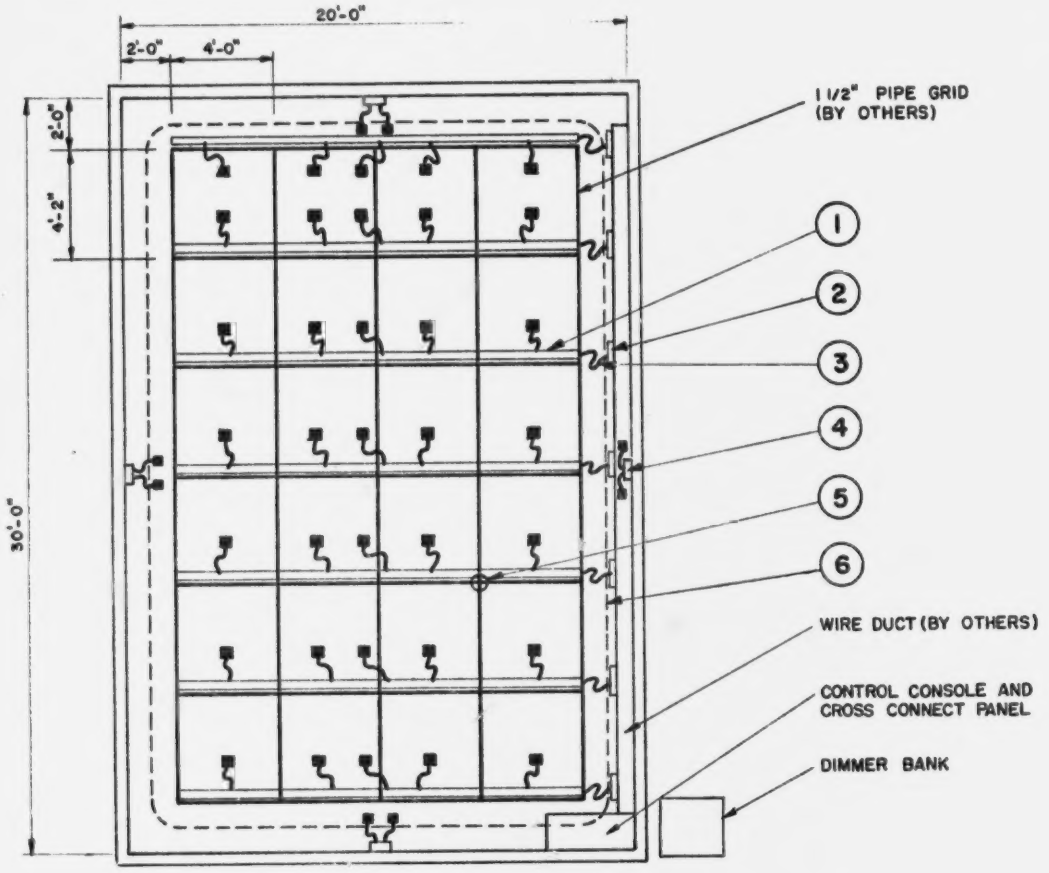
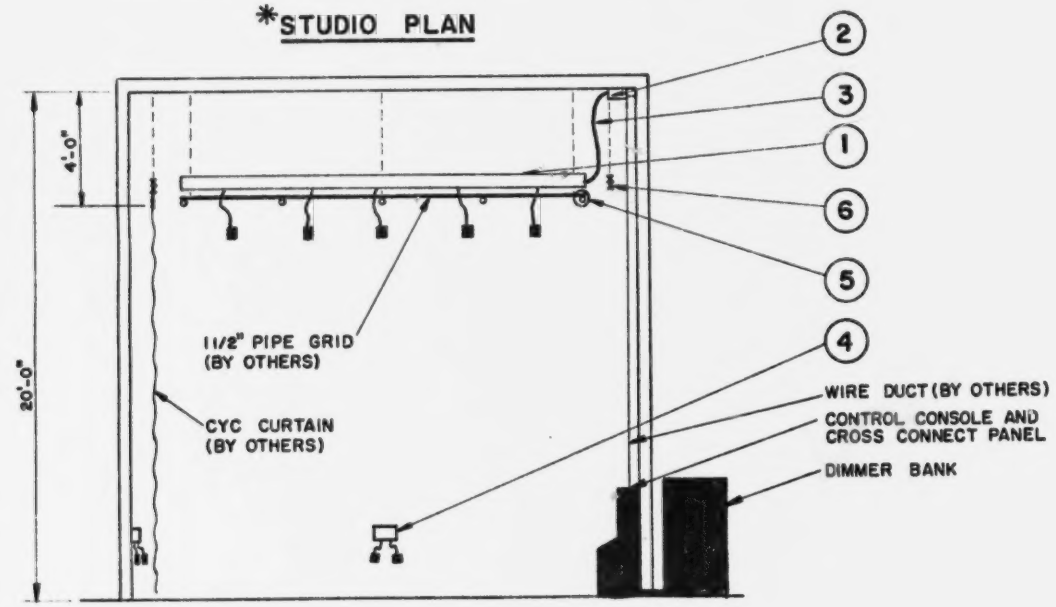
HUB ELECTRIC COMPANY, INC., 2255 West Grand Avenue, Chicago, Illinois 60612



*STUDIO PLAN



*STUDIO ELEVATION

EQUIPMENT SCHEDULE

REF. NO.	DESCRIPTION	QTY.
1	CAT. NO. 20000 SERIES CONNECTOR STRIP 16'-0" LONG WITH (5) 20 AMP 18" PIGTAIL OUTLETS	7
2	CAT. NO. 10200 SERIES TERMINAL BOX	7
3	CAT. NO. 550 CABLE FOR CONNECTION BETWEEN TERMINAL BOX AND CONNECTOR STRIP	LENGTH AS REQ'D
4	CAT. NO. 20030 SERIES WALL POCKET WITH (2) 20 AMP 18" LONG PIGTAIL OUTLETS	4
5	CAT. NO. 521 GRID CLAMP AT EVERY INTERSECTION OF GRID MEMBERS	35
6	CYCLORAMA TRACK - CAT. NO. AD501 FOR STRAIGHT SECTIONS, CAT. NO. AD500 AT CURVES WITH CAT. NO. AD502 CARRIERS 12" APART AND NECESSARY HANGING HARDWARE	AS REQ'D

GENERAL NOTES

1. DIMMER BANK TO BE LOCATED OUTSIDE STUDIO NEAR THE CROSS CONNECT PANEL.
2. FOR DESCRIPTION AND QUANTITIES OF LIGHTING INSTRUMENTS SEE "PORTABLE EQUIPMENT SCHEDULE"
3. RECEPTACLES ARE SUPPLIED AS SPECIFIED, PIN PLUG, PARALLEL BLADE, TWISTLOCK, ETC···. ALSO 18" LONG PIGTAIL OUTLETS ARE SUPPLIED STANDARD.
4. * THIS STUDIO CAN EASILY BE DIVIDED INTO TWO 15'x20' SETS.
5. TOTAL 20 AMP CIRCUITS = 43

FOR A DISCUSSION ON EDUCATIONAL T.V. STUDIO LIGHTING SEE BULLETIN NO. 112 "HOT LIGHTS AND CAMERAS"

HUB ELECTRIC COMPANY INC.

CHICAGO U.S.A.

SOLD TO

ARCHITECT

CUSTOMERS ORDER NO. | OUR ORDER NO.

DR. 6-1-67 J. CARSON

CK.

APP.

SCALE

SUBJECT TYPICAL 20'x 30' FIXED GRID T.V. STUDIO LAYOUT

JOB

DRAWING NO. C-702

SHEET NO.

ALL DESIGN RIGHTS RESERVED

6-1-67

TYPICAL PORTABLE EQUIPMENT SCHEDULE

FOR 20' x 30' TV STUDIO

(For Monochrome and Light Color)

ITEM	QTY.	DESCRIPTION	QTY.
		Back and Key Lights	
1	80264/TV	Controlled beam reflector unit with B6-32, 120 volt, 650 watt, 3200° K quartz lamp and following accessories: Cat. #80265 accessory holder and Cat. #80267 four-leaf barndoor	10
2	80394	Focusing quartz lite with BS10-32/1, 120 volt, 1000 watt, 3200° K quartz lamp and Cat. #80273 accessory holder, Cat. #80321 four-leaf barndoor	12
		Fill and Base Lights	
3	80301/TV	Single broad variable focus with B5-32, 120 volt, 500 watt, 3200° K quartz lamp and following accessories: Cat. #80302 diffusion lens, Cat. #80304 four-way barndoor, Cat. #80341 gel frame	10
4	80395	15" scoop with B5-32, 120 volt, 500 watt, 3200° K quartz with gel frame	
		Special Purpose Lights	
5	8664	Ellipsoidal spot with Gobos, 6" dia. lens, 4-way framing shutter and 500 watt quartz lamp	2
		Hanging Devices	
6	430	Adjustable hanger with cord plugs	8
7	422	Pantograph 10-15 pounds	9
8	522	Pantograph 20-25 pounds	9

6-1-67

TYPICAL PORTABLE EQUIPMENT SCHEDULE

FOR 20' x 30' TV STUDIO

(For Monochrome and Light Color)

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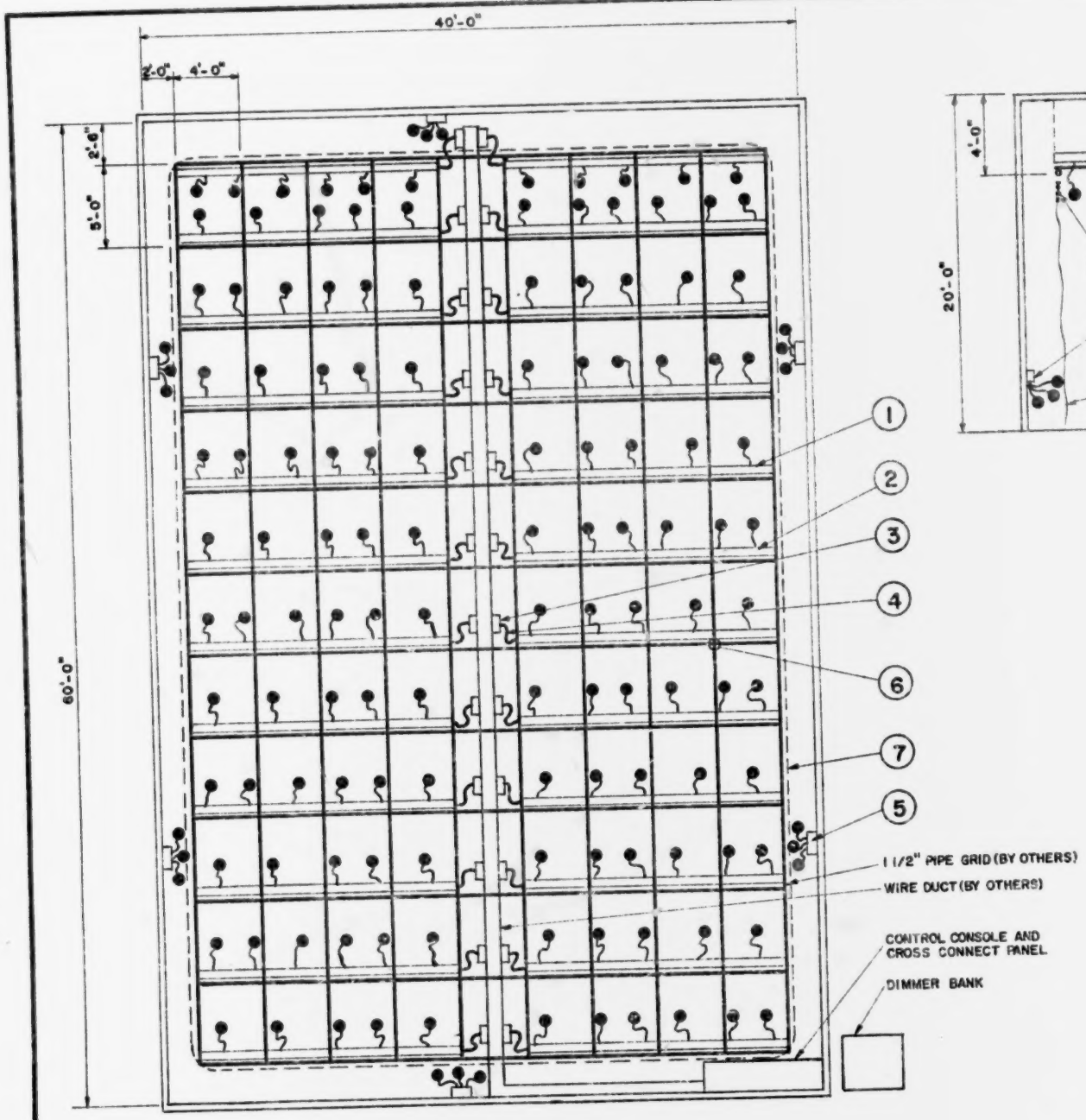
*NOTES:

1. This equipment schedule is intended to describe a typical equipment compliment for the studio size indicated. It is not to be construed as a strict guide, as equipment types and quantities vary, depending on type of productions and techniques of the lighting director.

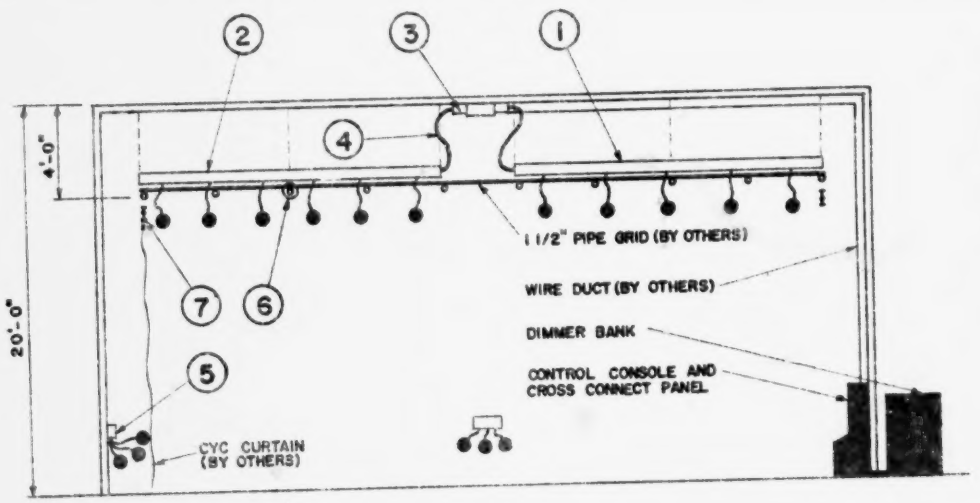
2. Prints of equipment are available on request.

3. The suffix "TV" to catalog number indicates equipment is supplied with a "C" clamp for pipe mounting plus 3' 0" of hi-temperature silicon rubber cord terminating in a male cap of specified type.

4. Type of receptacles, pin plugs, twistlock, etc., to be specified.



*STUDIO PLAN



*STUDIO ELEVATION

EQUIPMENT SCHEDULE

REF NO.	DESCRIPTION	QTY.
1	CAT NO 20000 CONNECTOR STRIP 16'-0" LONG WITH (5) 20 AMP 18" PIGTAIL OUTLETS	12
2	CAT NO 20000 SERIES CONNECTOR STRIP 16'-0" LONG WITH (5) 20 AMP 18" PIGTAIL OUTLETS AND (1) 50 AMP 18" PIGTAIL OUTLET	12
3	CAT. NO. 10200 SERIES TERMINAL BOX	24
4	CAT. NO. 550 CABLE FOR CONNECTION BETWEEN THE TERMINAL BOX AND CONNECTOR STRIP	LENGTH AS REQ'D
5	CAT. NO. 20030 SERIES WALL POCKET WITH (3) 20 AMP 18" PIGTAIL OUTLETS.	6
6	CAT. NO. 521 GRID CLAMP AT EVERY INTERSECTION OF GRID MEMBERS	120
7	CYCLORAMA TRACK - CAT. NO. AD501 FOR STRAIGHT SECTIONS, CAT. NO. AD500 AT CURVES WITH CAT. NO. AD502 CARRIERS 12" APART AND NECESSARY HANGING HARDWARE	AS REQ'D

GENERAL NOTES

1 DIMMER BANK TO BE LOCATED OUTSIDE STUDIO NEAR THE CROSS CONNECT PANEL
2 FOR DESCRIPTION AND QUANTITIES OF LIGHTING INSTRUMENTS SEE "PORTABLE EQUIPMENT SCHEDULE"
3 RECEPTACLES ARE SUPPLIED AS SPECIFIED; PIN PLUG, PARALLEL BLADE, TWISTLOCK, ETC. ALSO 18" PIGTAIL OUTLETS ARE SUPPLIED AS STANDARD
4 * THIS STUDIO CAN EASILY BE DIVIDED INTO SIX 20' x 20' SETS
5 TOTAL 20 AMP CIRCUITS = 138
TOTAL 50 AMP CIRCUITS = 12

FOR A DISCUSSION ON EDUCATIONAL T.V. STUDIO LIGHTING SEE BULLETIN NO. 112 "HOT LIGHTS AND CAMERAS"

CHANGES

HUB ELECTRIC COMPANY INC.

SOLD TO

ARCHITECT

CUSTOMERS ORDER NO. | OUR ORDER NO.

CHICAGO U.S.A.

DR. 6-1-67 J. CARSON

CK.

APP.

SCALE

TYPICAL 40'x 60' FIXED GRID T.V. STUDIO LAYOUT

JOB

DRAWING NO. C-1701

SHEET NO.

ALL DESIGN RIGHTS RESERVED

* TYPICAL PORTABLE EQUIPMENT SCHEDULE

FOR 40' x 60' TV STUDIO
(For Monochrome and Light Color)

ITEM	CAT. #	DESCRIPTION	QTY
		Back and Key Lights	
1	80264/TV	Controlled beam reflector unit with B6-32 120 volt, 650 watt, 3200° K quartz lamp and following accessories: Cat. #80265 accessory holder and Cat. #80267 four-leaf barndoor	8
2	80394	Focusing light with BS10-32F/1, 120 volt, 1000 watt, 3200° K quartz lamp and Cat. #80254 four-leaf barndoor	7
3	80272/TV	Controlled beam reflector unit with B10-32E 120 volt, 1000 watt quartz lamp and following accessories: Cat. #80273 accessory holder, Cat. #80321 four-leaf barndoor	5
4	80272/SETV	Controlled beam reflector unit with B10-32E, 120 volt, 1000 watt quartz lamp and four-leaf barndoor	5
		Fill and Base Lights	
5	80301/TV	Single broad variable focus with B5-32, 120 volt, 500 watt, 3200° K quartz lamp and following accessories: Cat. #80302 diffusion lens, Cat. #80304 four-way barndoor, Cat. #80341 gel frame	8
6	80395	15" scoop with B5-32, 500 watt, 120 volt, 3200° K quartz lamp with gel frame	8
7	80396	18" scoop with B20-32/8, 120 volt, 2000 watt, 3200° K quartz lamp and gel frame	5
8	80308/TV	Soft-lite with two B5-32, 120 volt, 1000 watt, 3200° K lamp.	4

* TYPICAL PORTABLE EQUIPMENT SCHEDULE

6-1-67

FOR 40' x 60' TV STUDIO
(For Monochrome and Light Color)

ITEM	CAT. #	DESCRIPTION	QTY
		Special Purpose Lights	
9	8664	Ellipsoidal spot with Gobos, 6" lens, 4-way framing shutters and 500 watt quartz lamp	5
10	80325/TV	Follow spot with Gobos, 2 - 8" dia. lens, iris shutter and BPS10-32, 120 volt, 1000 watt, 3200° K quartz lamp	1
		Cyclorama Lights	
11	80314/TV	4-lite cyc. strip with four B5-32, 120 volt, 500 watt, 3200° K quartz lamp and four Cat. #80317 safety guard and 80319 color filter	4
		Adjustable Hanger	
12	430	Adjustable hanger with cord plugs	27
13	422	Pantograph, 10 - 15 pounds	24
14	522	Pantograph, 20 - 25 pounds	10

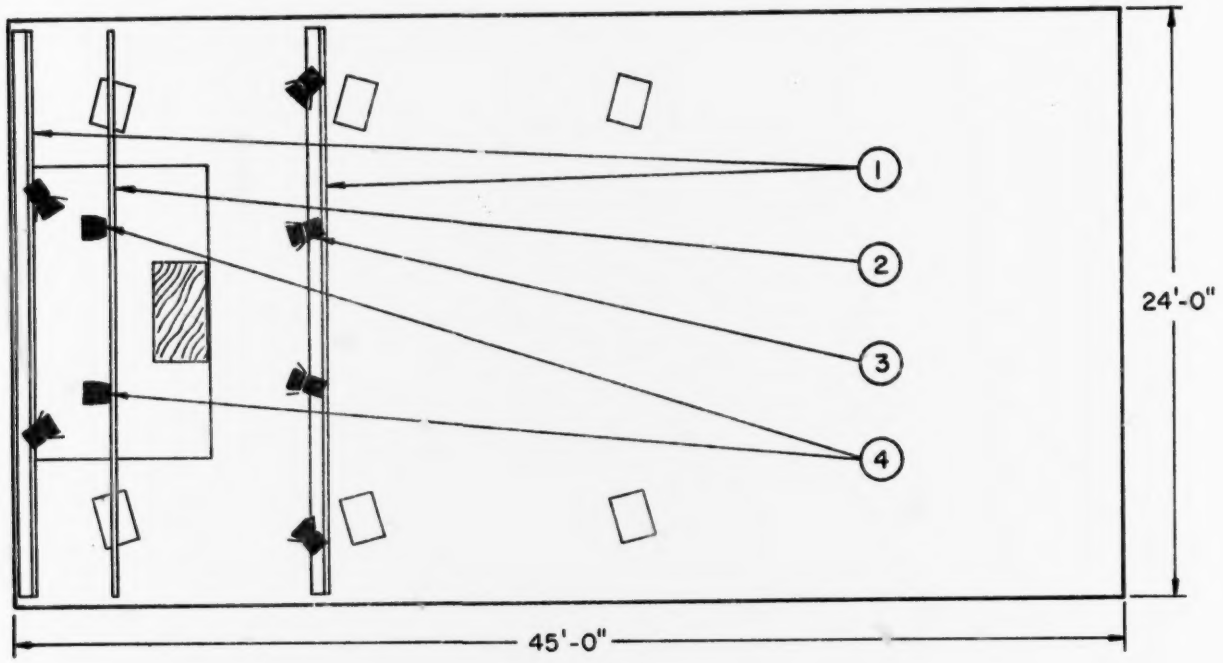
*NOTES:

1. This equipment schedule is intended to describe a typical equipment compliment for the studio size indicated. It is not to be construed as a strict guide, as equipment types and quantities vary, depending on type of productions and techniques of the lighting director.

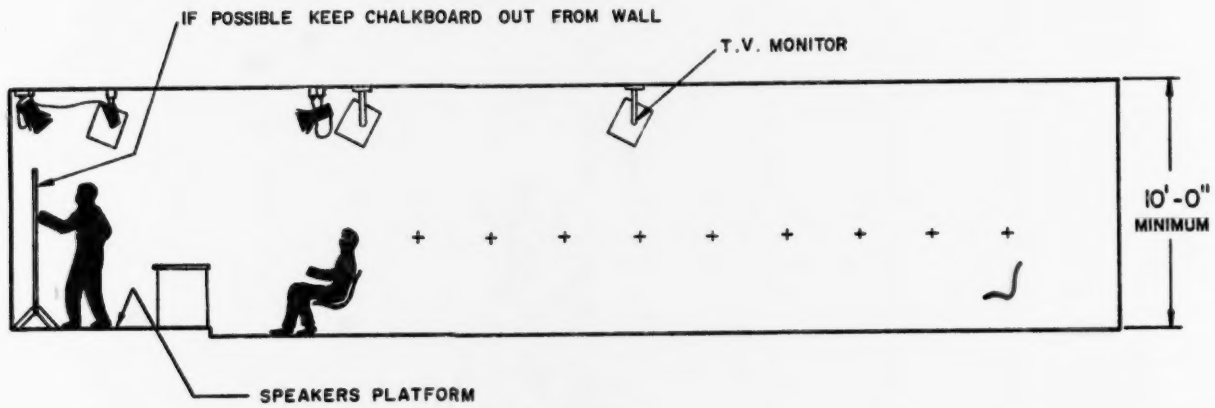
2. Prints of equipment are available on request.

3. Suffix -"TV" to catalog number indicates equipment is supplied with "C" clamp for pipe mounting plus 3' 0" hi-temperature silicon rubber cord terminating in a male cap of specified type.

4. Type of receptacles, pin plugs, twistlock, etc., to be specified.



PLAN



ELEVATION

EQUIPMENT

ITEM	DESCRIPTION	QTY
1	LE-6811-2 COMBINATION UNISTRUT & PLUGGING STRIP 22'-0" LONG WITH 5-20 AMPERES TWISTLOCK RECEPTACLES	2
2	CATALOG NO. 540 UNISTRUT CHANNEL	1
3	CATALOG NO. 80408/TV VARI-BEAM "1000" WITH CATALOG NO. 80409 4 LEAF BARNDOOR	6
4	CATALOG NO. 80282/TV "BACK-LITE" WITH INTEGRAL 2 LEAF BARNDOOR	2
	LAMPS	
5	NO. BS7-30F/1 750 WATT 2000 HR LIFE	4
6	NO. BS5-30F/1 500 WATT 2000 HR LIFE	2
7	NO. BS-29F 500 WATT 10.000 HR LIFE	2

HUB ELECTRIC COMPANY INC.

CHICAGO U.S.A.

DR. H DIAZ 5-31-68

CH.

APP.

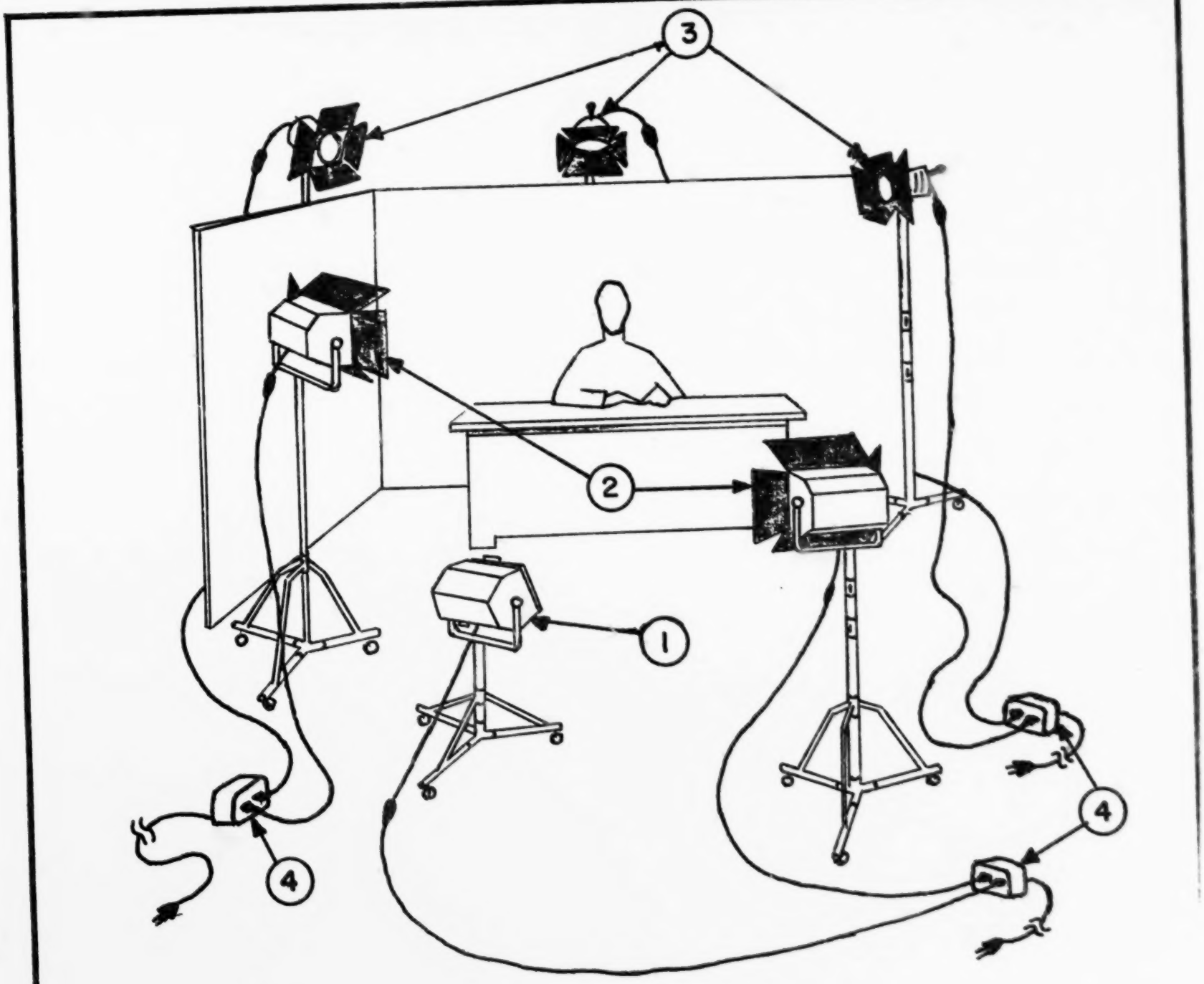
SCALE —

PROJECT: TYPICAL CLASS ROOM T.V. LAYOUT

JOB

DRAWING NO. C-1706

SHEET NO.



*Complete Hub/Colortran Lighting Kit...nothing else required. Includes Light Heads and Accessories, Stands, Cable & Control Boxes...and Carrying Cases for lightweight portability.
*Suitable for Monochrome or Color TV
*Typical Applications: Lectures, Instructions, Demonstrations, Sports, etc.
*Total Weight of Kit (including 3 carrying cases) - 162 lbs.

For complete listings of equipment supplied see Hub/Colortran Portable Lighting Kit, Hub #80402.

BY	CHANGES	DATE	SCALE	SOLD TO	SUBJECT
			DRAWN 6-1-67 J. CARSON	CUST. #	HUB/COLORTRAN PORTABLE TV. LIGHTING KIT CAT. NO. 80402
			APPROVED	HUB #	

HUB ELECTRIC COMPANY INC.
2255 W. GRAND AVE. CHICAGO 12. U.S.A.

DRAWING NO. C-1703

6-1-67

HUB/COLORTRAN CAT. NO. 80402 PORTABLE TV LIGHTING KIT

- EQUIPMENT SCHEDULE -

ITEM	CAT. #	DESCRIPTION	QTY.
		Fill and Base Lights	
1	80301	Multi - Broad	1
	80403	Adjustable Stand (Low, with casters)	1
	80393	Estension cord with male and female connectors	1
	80302	Diffusion lens and holder	1
	B55-32	Quartz iodine lamp, 500 watt - 3200° K, 120 volt	1
2	80300	Single broad	2
	80353	Adjustable stand (extra high, with casters)	2
	80304	Four-Leaf barndoor	2
	80393	Extension cord with male and female connectors	2
	B5-32	Quartz iodine lamp, 1000 watt - 3200° K, 120 volt	2
		Back and Key Lights	
3	80264	Multi - Beam, 650	3
	80265	Acessory Holder	3
	80267	Four-Leaf Barndoor	3
	80353	Adjustable stand (extra high, with casters)	3
	80393	Extension cord with male and female connectors	3
	B6-32	Quartz - Iodine lamp, 650 watt - 3200° K, 120 volt	3
		Light Outlets	
4	80391	Outlet box with a 15 amp. duplex receptacle (parallel blade plus "U" ground)and 25 ft. of cable with male cap	3

HUB/COLORTRAN CAT. NO. 80402 PORTABLE TV LIGHTING KIT

- EQUIPMENT SCHEDULE -

ITEM	CAT. #	DESCRIPTION	QTY.
		Carrying Cases	
5	80410	Carrying case for above light heads and accessories (size: 33" x 16 1/2" x 17 1/2") loaded weight 72 lbs.	1
6	80384	Carrying case for all above stands (size: 42" x 11" x 15") loaded weight 44 lbs.	1
7	80385	Carrying case for above cable and junction boxes (size 32 1/2" x 9" x 12 1/2") loaded weight 46 lbs.	1

NOTE:

1. All caps and receptacles are parallel blade plus "U" ground

2. Total connected load of Catalog #80402 kit is 37 ampere

3. Prints of equipment are available on request

FROM BULLETIN No. 112
" HOT LIGHTS AND CAMERA "

LIGHTING SYSTEM DESIGN DATA FOR VARIOUS STUDIO SIZES

STUDIO SIZE		NOTE	18' x 25'		20' x 30'		25' x 40'		30' x 50'		40' x 60'		50' x 75'	
TYPE OF FACILITIES		(1)	M	C	M	C	M	C	M	C	M	C	M	C
NO. OF 20 AMP OUTLETS	OVER HEAD	(2)	20	26	30	43	48	56	72	88	120	136	180	218
	WALL	(3)	4	6	6	6	8	8	10	10	12	12	14	14
NO. OF 50 AMP OUTLETS	OVER HEAD	(4)		6		8		14	5	22	10	34	15	50
	WALL			4		4		4	4	6	4	6	6	6
AVERAGE LIGHT LOAD (KW)		(5)	15	39	20	52	39	92	52	140	86	220	140	360
NUMBER OF DIMMER CONTROLS		(6)	4	8	6	10	8	12	10	18	14	24	24	36
NUMBER OF NON-DIM CONTROLS		(7)	4	8	6	10	8	12	10	18	14	24	24	36
NO. OF CORD AND PLUG SETS	20 AMP		26	38	36	48	56	78	82	120	132	182	194	282
	50 AMP			10		12		20	9	28	14	40	21	58

NOTES:

(1) M-indicates monochrome facilities based on 120 footcandle lighting intensity
C-indicates color facilities based on 300 footcandle lighting intensity

(2) Monochrome-one outlet for each 20 sq. ft. of N.P.A. (Net Production Area) spacing from 3 ft. to 5 ft. on center in 20000 Series plugging strips.

Color - one outlet for each 14 sq. ft. of N.P.A. spacing 2½ ft. to 3½ ft. on center.

(3) Approx. 1 outlet for each 20 linear ft. of wall space in 11000 Series pockets.

(4) Approx. one 50 amp. outlet for every 5th or 6th 20 amp. outlet.

(5) Monochrome-25 watts per each sq. ft. of N.P.A.

Color-65 watts per each sq. ft. of N.P.A. For power service divide by 72%.

(6) Approx. one for each 5 outlets based on 6000 watt capacity dimmer. For color where load for circuit is large, reduce the number of dimmers by using some 12,000 watt capacities. Also for larger studios requiring more than 24 dimmers, remote control systems similar to CR-2445 should be used. See pages 12, 13, and 14 for various types of lighting control switchboards.

(7) 1/2 to 2/3 of the quantity of dimmers.

HUB ColorTran®

INFORMATION FOR EDUCATIONAL T.V. LIGHTING LAYOUT AND EQUIPMENT PROPOSAL

Date _____ 19____

Project _____

Address _____

Owner _____

Architect _____

Engineer _____

_____

_____

_____Cameras: Vidicon ( ) Image Orth ( )_____

Black & White ( ) Color ( )_____

Mobile Lighting System ( )_____

Studio:	NO._____	NO._____
Dimensions	_____x_____x_____High	_____x_____x_____High
System	Portable ( ) Permanent ( )	Portable ( ) Permanent ( )
Grid Type	_____	_____
Power Type	_____Phase_____Wire_____V.	_____Phase_____Wire_____V.
	_____Amps_____Cyc.	_____Amps_____Cyc.
	_____	_____

Comments: _____

_____

_____

_____

A SKETCH IS ALWAYS HELPFUL. USE BACK.

HUB AGENT:

HUB ELECTRIC CO., INC.
2255 West Grand Avenue,
Chicago, Illinois 60612